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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/699,373	10/31/2000	Kouji Shiraishi	P100021-00030	7821

7590 06/26/2003

ARENT FOX KINTNER PLOTKIN & KAHN, PLLC
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EXAMINER

VANOY, TIMOTHY C

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 06/26/2003

17

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/699,373

Applicant(s)

SHIRAIISHI et al.

Examiner

VANDY

Group Art Unit

1754

— The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE THREE MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

☒ Responsive to communication(s) filed on 04/16/03 AND 06/16/03

☐ This action is FINAL.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

☒ Claim(s) 1, 2 AND 5

is/are pending in the application.

Of the above claim(s)

is/are withdrawn from consideration.

☒ Claim(s) 2 AND 5

is/are allowed.

☒ Claim(s) 1

is/are rejected.

☒ Claim(s) 1

is/are objected to.

☐ Claim(s)

are subject to restriction or election requirement

Application Papers

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☒ The drawing(s) filed on OCT 31, 2000 is/are objected to by the Examiner

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).

☒ All ☐ Some* ☐ None of the:

☒ Certified copies of the priority documents have been received.

☐ Certified copies of the priority documents have been received in Application No. _____.

☐ Copies of the certified copies of the priority documents have been received

in this national stage application from the International Bureau (PCT Rule 17.2(a))

*Certified copies not received: _____

Attachment(s)

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Reference(s) Cited, PTO-892

☐ Notice of Informal Patent Application, PTO-152

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Other _____

Office Action Summary

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission date-stamped June 16, 2003 (paper no. 15) has been entered.

Drawings

a) The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Claim 1 sets forth a step b calling for oxidizing the seawater with air and then a step c calling for mixing the oxidized seawater with raw seawater, however this is just the opposite of what is shown in applicants' fig. 2. Fig. 2 shows the mixing of the unoxidized, contaminant-loaded seawater (not the oxidized seawater of claim 1) with raw seawater, and then the oxidation of this mixture of unoxidized, contaminant-loaded seawater and raw seawater. Fig.s 3 and 4 both appear to show the mixing and oxidation steps occurring *simultaneously* together. No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

- a) In claim 1 line 3, “and the exhaust gas” should be inserted between “seawater” and “into”.
- b) In claim 1 line 2 in step c, “the exhaust gas and” should be deleted, and in claim 1 line 3 in step c, “are” should be replaced with “is” because the exhaust gas is not discharged into the ocean, but into the atmosphere.
- c) In claim 1 line 3 in step c, “s” should be deleted.
- d) In claim 1 line 6 in step c, “ration” should be replaced with “ratio”.
- e) In claim 1 line 10 in step c, it appears that “and introducing a treated gas” should be replaced with “wherein the exhaust gas is introduced into the gas-liquid contact apparatus” because the treated gas would be discharged from the process (not introduced into the gas-liquid contact apparatus).
- f) In claim 1 line 11 in step c, “in the apparatus” should be deleted.
- g) In claim 1 line 25, “o” should be replaced with “ σ ” (as supported in original claim 2).
- h) In claim 1 step b, commas should be inserted between “seawater” and “after” and also between “contact” and “with”.
- i) For the sake of neatness and appearance, it is suggested to insert the ρ_G/ρ_L ratio values recited in the last three lines of claim 1 after “o is a surface tension of seawater (kg/sec²)”.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

- a) Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1 sets forth a step b calling for oxidizing the seawater with air and then a step c calling for mixing the oxidized seawater with raw seawater, however this is just the opposite of what is shown in applicants' fig. 2. Fig. 2 shows the mixing of the unoxidized, contaminant-loaded seawater (not the oxidized seawater of claim 1) with raw seawater, and then the oxidation of this mixture of unoxidized, contaminant-loaded seawater and raw seawater. Fig.s 3 and 4 both appear to show the mixing and oxidation steps occurring *simultaneously* together.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regards as their invention.

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a) In claim 1, the phrase "in the case of using a perforated plate. . . " raises the question of whether or not the limitations set forth in line 3 et seq. in step c of claim 1 are required or not. The limitations set forth in step c in claim 1 (starting with "wherein the seawater. . .") raises the question of whether or not the claim is limited to these limitations or not. It appears that the limitations in step c in claim 1 starting with the phrase "wherein the seawater. at least one perforated plate" do not limit the claim because there is nothing the claim requiring that the gas-liquid contact apparatus must have the perforated or grid plate column without weir and downcomer composed of at least one perforated plate.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

Claim Rejections - 35 USC § 103

Claim 1 has been limited to mixing the (oxidized) seawater with raw seawater without using chemicals (as supported on pg. 8 Ins. 20-25 in the applicants' specification), however the English abstract of JP 11-290,643 A discloses that sodium hydroxide to the acidic waste water (as illustrated in figure 3). Therefore, JP 11-290,643 A does not render obvious or meet the limitation "without using chemicals" set forth in applicants' claim 1.

Response to Arguments

The Applicants' arguments submitted in their Amendment date-stamped Apr. 16, 2003 (paper no. 11) and the Amendment date-stamped June 25, 2003 (paper no. 16) have been fully considered but they are moot in view of the new grounds of rejection and objection.

The Applicants' request for a telephone interview has been noted, but is submitted to be premature since the Applicants would not have the advantage of considering the Examiner's rebuttal to the arguments prior to the interview.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy C. Vanoy whose telephone number is 703-308-2540. The examiner can normally be reached on 8 hr. days.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman, can be reached at phone no. 703-308-3837. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

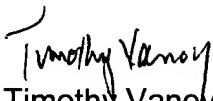
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

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Timothy Vanoy/tv
June 25, 2003


Timothy Vanoy
Patent Examiner

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